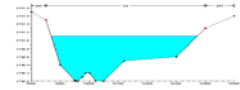


WORKSHOP ON ARIZONA STATE STANDARD SS 9-02



FLOODPLAIN HYDRAULIC MODELING

Presented by the
Arizona Department of Water Resources

ADWR is offering a 1-day (8-hour) workshop on State Standard SS 9-02 that will be held in Casa Grande Arizona. SS 9-02 was developed to provide guidance on modeling of hydraulic processes in watercourses and floodplains. This workshop is oriented towards those individuals that are knowledgeable in the development of hydraulic models.

Intended Audience: Hydrologists, Engineers, Floodplain Administrators, Public Works Staff

Workshop Topics

- Overview of State Standard SS 9-02
Why the standard was developed, when it needs to be used
- One-Dimensional Hydraulic Modeling
Classify Flow Conditions, Assumptions of 1-D Analysis, Multiple vs. Single Cross-Section Analysis, Available Software
- Geometric Data Input Requirements
Surveying and Mapping Requirements, Locate and Orient Cross Sections, Subdivide Cross Sections, Reach Lengths, Special Features, Crossing Structures
- Discharge and Starting Boundary Conditions
Discharge Rates, Local Inflows, Hydrograph Timing, Simulate distributaries Flow, Breakouts, Flow Splits, Starting Water Surface Elevations
- Roughness Coefficients
Key Factors, Procedures for Assigning Roughness Coefficients, References for Arizona
- Bridges, Culverts and Weirs
Flow Transitions at Crossing, Low-Flow Conditions, Pressure-Flow, Complex Bridge Problems, Culvert Hydraulics, Road Overtopping, Weirs
- Modeling Complex Conditions
Buildings and Structures in the Floodplain, Effects of Pits, Supercritical Flow, Mixed-Flow Conditions
- Evaluating Development in Floodways
Significance of the Floodway, Development Impacts, Achieve a No-Rise Condition, Excessive Cumulative Effects
- Good Modeling Practice
Documentation, Validity of Results, Troubleshoot Model, Quality Control, Checklists

Instructors: John Hunt, PE, of Ayres Associates. John has extensive experience in floodplain hydraulic modeling and has taught courses in HEC-RAS modeling throughout the United States. Lyle Zevenbegen, PhD of Ayres Associates. Lyle is an expert in hydraulic modeling and is an accomplished instructor on hydraulic topics.

Cost: Free (seating is limited, and all workshop attendees must pre-register)

Registration: Is being handled by AZ LTAP, use LTAP's **Course Enrollment Form** and fax it to AZ LTAP at 602-712-3007, ATTN: Patricia Bravo; or you can mail it. The LTAP Course Enrollment can be found on LTAP's web site at <http://www.azltap.org/>. **On-site registration will not be available.**

This workshop has been pre-approved by ASFPM for 8 CECs.



**Arizona Department of Water Resources
Arizona State Standard SS 9-02 Workshop**

FLOODPLAIN HYDRAULIC MODELING

Location

December 6, 2007 **Casa Grande** (limit 50 people)
 CAC Corporate Center
 540 N. Camino Mercado,
 Casa Grande, AZ
 Registration due by December 3, 2007

Times

7:30	AM	to	8:00	AM	Check-in (on-site registration will not be available)
8:00	AM	to	12:30	PM	Morning session (includes at least one break)
12:30	PM	to	1:30	PM	Approximate lunch time (lunch is on your own)
1:30	PM	to	5:00	PM	Afternoon session (includes at least one break)

Seating is limited and all workshop attendees must be pre-registered. **On-site registration will not be available.** Lunch and break refreshments **will not** be provided.

Registration is being handled by LTAP, to register use LTAP's **Course Enrollment Form** and fax it to AZ LTAP at 602-712-3007 ATTN: Patricia Bravo; or you can mail the enrollment form to AZ LTAP, 1130 N. 22nd Ave, Phoenix, AZ 85009. The LTAP Course Enrollment Form can be found on LTAP's web site at <http://www.azltap.org/>.

Complete one registration form for each person.

You need to send a completed Course Enrollment Form to LTAP by the registration deadline for the workshop you want to attend.

This workshop has been pre-approved by ASFPM for 8 CECs.
For additional information contact Brian Cosson of ADWR at 602-771-8657,
or by e-mail at btcosson@azwater.gov